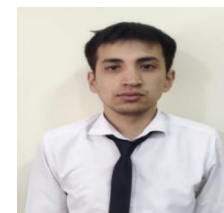




MODERN APPROACHES TO THE DEVELOPMENT OF PHYSICAL QUALITIES

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Abstract

This article covers the theoretical foundations of the formation and development of students' physical qualities - strength, endurance, agility, speed, and flexibility, as well as effective forms and methods of their improvement based on modern pedagogical technologies. The advantages of monitoring using innovative technologies used in school education and sports institutions, as well as digital tools, are scientifically analyzed. The results of this study have practical significance in increasing the effectiveness of physical education classes.

Keywords:

physical qualities, physical education, strength, speed, endurance, agility, flexibility, pedagogical technology, sports methodology, motor activity.

Input

In today's era of rapid globalization and technological development, the upbringing of a healthy generation is one of the priority goals of the national education system. Physical education plays an important role in the process of comprehensive development of students. Because physical qualities are the main factor in the development of a person not only healthy, but also strong-willed, agile, enduring, and active.

Currently, increasing the physical activity of schoolchildren, involving them in sports, strengthening their readiness for military service, and motivating them to lead a healthy lifestyle are becoming important strategic tasks. Along with traditional training, approaches to the development of physical qualities are expanding with the help of innovative technologies, digital monitoring, and interactive programs.

Main part

1. The concept of physical qualities and their essence: Physical qualities are functional indicators that determine a person's ability to perform various motor activities purposefully, effectively, and safely. In scientific sources, physical qualities are divided into five main groups:

1.1. Strength: The body's ability to perform an action or resist external resistance. A person with developed strength easily performs complex physical tasks and is less prone to injuries.

1.2. Endurance: The body's ability to perform activities for a long time without decreasing. This quality is closely related to the state of the cardiovascular and respiratory systems.

1.3. Speed: The speed of starting, executing, and finishing a movement is determined by the speed of reaction to external stimuli.

1.4. Agility: The ability to quickly change the direction, speed, and position of the body. This quality is of particular importance in sports games.

1.5. Flexibility: The range of motion of joints is determined by the elasticity of muscles. Flexibility reduces the risk of injuries and increases the accuracy of movement.

2. Methodology for the development of physical qualities



2.1. Methods of strength development

- Exercises with weights (barbell, dumbbell);
- Exercises based on body weight (pulling, pushing off the ground);
- Plumetric exercises;
- Static strength exercises (plank, isometric grips).

2.2. Strengthening

- Long-distance running (800-3000 meters);
- Interval running;
- Circuit training;
- Cycling, swimming, walking.

2.3. Development of efficiency

- Exercises for the formation of starting speed;
- Short-distance running (20-60 meters);
- Reactive exercises (response to light and sound signals);
- Fast movements characteristic of sports games.

2.4. Development of agility

- Traffic on paved walkways;
- L-shaped running, zigzag exercises;
- Coordination ladder exercises;
- Gymnastic combinations.

2.5. Development of flexibility

- Static extensions;
- Dynamic stretching exercises;
- Elements of yoga;
- Gymnastic exercises and dance techniques.

3. Modern approaches and innovative technologies

Innovative approaches to physical education are being introduced in today's educational process:

3.1. Digital Technologies

- Mobile applications (Google Fit, Strava, Adidas Training);
- Control of heart rate, number of steps, calories through smart watches and fitness trackers;
- Online monitoring and remote monitoring by trainers.

3.2. Personality-oriented pedagogical approach

An individual plan is drawn up based on the age, physical development, health indicators, and interests of each student.

3.3. Interactive trainings

- Gamification (game-based exercises);
- VR (virtual reality) training;
- Interactive simulators of sports games.

3.4. Sports and Health Programs

Health weeks, morning exercise marathons, "One Million Steps" projects, and cross-fit elements are being implemented in schools.

Conclusion



The development of physical qualities plays an important role in the formation of a healthy lifestyle of the younger generation, preparation for military service, the formation of volitional qualities, and the improvement of sports performance and movement culture. The development of each physical quality through age-appropriate, scientifically based training, digital technologies, and a personality-oriented approach significantly increases the effectiveness of training.

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